

AMENDMENTS TO THE DRAWINGS:

The attached drawings include changes to FIG. 3. FIG. 3 has been re-titled FIG. 3A, and FIG. 3B, showing electrode 59 on gear cap 51, has been added. Support for the added drawing can be found, for example, in paragraph 34 and claim 12.

Additionally, Replacement Drawings are provided for FIGS. 1, 2, and 4-11. In the Replacement Drawings for FIGS. 1, 2, and 4-11, the number and total number of the drawings has been removed (e.g., 4/11), and the extraneous lettering at the upper right hand corner has been removed.

REMARKS

INTRODUCTION:

In accordance with the foregoing, claims 2, 3, 15, and 16 have been cancelled, and claims 1, 4, 8, 10, 11, 17-19, 22, 25, and 30 have been amended. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1, 4-14, and 17-30 are pending and under consideration.

ALLOWABLE SUBJECT MATTER:

In the Office Action, at page 9, item 9, the Examiner indicated that claims 8, 9, and 25-29 would be allowable if rewritten in independent form. Applicant respectfully submits that claims 8 and 25 have been rewritten in independent form, and that claims 8, 9, and 25-29 are now allowable.

OBJECTION TO THE DRAWINGS:

In the Office Action, at page 2, item 1, the Examiner objected to the drawings. In view of the amended drawings, as set forth above, Applicant respectfully submits that the outstanding objection to the drawings is overcome.

OBJECTION TO THE TITLE and SPECIFICATION:

In the Office Action, at page 3, items 2 and 3, the Examiner objected to the Title as not being descriptive, and to the Specification. In view of the amended Title and the amended Specification set forth above, Applicant respectfully submits that the outstanding objections to the Title and the Specification are overcome.

REJECTION UNDER 35 U.S.C. §103:

In the Office Action, at page 3, item 5, the Examiner rejected claims 1, 2, and 7 under 35 U.S.C. §103(a) as being unpatentable over Lee. (U.S. 2003/0039493 A1 - hereinafter Lee) in view of Sumino et al. (JP 01-057284 A – hereinafter Sumino). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicant traverses this rejection and respectfully requests reconsideration.

In the Office Action, at page 4, item 6, the Examiner rejected claims 3-6 under 35 U.S.C. §103(a) as being unpatentable over Lee in view of Sumino, and further in view of Foltz (U.S.

5,599,265 – hereinafter Foltz). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicant traverses this rejection and respectfully requests reconsideration.

In the Office Action, at page 6, item 7, the Examiner rejected claims 10-14, 24, and 30 under 35 U.S.C. §103(a) as being unpatentable over Lee in view of Sumino. The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicant traverses this rejection and respectfully requests reconsideration.

In the Office Action, at page 7, item 8, the Examiner rejected claims 15-23 under 35 U.S.C. §103(a) as being unpatentable over Lee in view of Sumino, and further in view of Foltz. The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicant traverses this rejection and respectfully requests reconsideration.

As a general matter, to establish a *prima facie* obviousness rejection, the Examiner needs to provide evidence of the existence of individual elements corresponding to the recited limitations, a motivation to combine the individual elements to create the recited invention, and a reasonable expectation of success. (See MPEP, at 2143. – “[t]he teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure.’ In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).”, and at 2143.03 – “[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.’ In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).”).

Should the Examiner fail to provide evidence that the individual elements exist in the prior art, or that the motivation exists in the prior art or in the knowledge generally available to one of ordinary skill in the art, then the Examiner has not provided sufficient evidence to maintain a *prima facie* obviousness rejection of the claim. (See MPEP, at 2143.03, and 2143.01).

Amended, independent claim 1 recites: “...wherein the elastic member forms a pair, in the outer circumferential surface of the insertion portion of the gear cap, there is positioned a pair of elastic member accommodating parts, to accommodate the pair of elastic members, and at least one of the pair of the elastic members comprises an elastic portion accommodated in the elastic member accommodating part of the insertion portion and elastically pressed by the heat roller, bending portions positioned on opposite ends of the elastic portion, which, when installed in the heat roller assembly, are bent toward the heat roller, and a locking portion

provided in an end of the bending portion and contacting the inner circumferential surface of the heat roller by an elasticity of the elastic portion.”

Amended, independent claim 10 recites: “...a pair of elastic members disposed, respectively, in the pair of elastic member accommodating parts and coupling the gear cap to the first end of the heat roller and to prevent the gear cap from rotating relative to the heat roller, wherein at least one of the pair of the elastic members comprises an elastic portion accommodated in the corresponding elastic member accommodating part of the insertion portion and elastically pressed by the heat roller, bending portions positioned on opposite ends of the elastic portion, which, when installed in the heat roller assembly, are bent toward the heat roller, and a locking portion provided in an end of the bending portion and contacting an inner circumferential surface of the heat roller by an elasticity of the elastic portion.”

And amended, independent claim 30 recites: “...a pair of end caps, respectively engaging opposite ends of the heat roller, each end cap having an insertion portion inserted into one of the opposite ends of the heat roller, each insertion portion having a plurality of elastic member accommodating parts; and a plurality of elastic members corresponding to the plurality of elastic member accommodating parts, wherein...at least one of the elastic members comprises an elastic portion accommodated in the elastic member accommodating part of the insertion portion and elastically pressed by the heat roller, bending portions positioned on opposite ends of the elastic portion, which, when installed in the heat roller assembly, are bent toward the heat roller, and a locking portion provided in an end of the bending portion and contacting the inner circumferential surface of the heat roller by an elasticity of the elastic portion.”

Regarding the combination of Lee and Sumino, the motivation asserted by the Examiner is “to firmly fix the roller and gear (or end) cap together.” Applicant respectfully submits that the fusing roller 112 and the first and second end caps 120 and 130 are already firmly fixed together, and thus, contrary to the Examiner’s assertion, one of ordinary skill in the art would not be motivated to look outside of Lee to firmly fix them together.

For example, Lee discloses that keys 124 and 134, respectively of the first and second end caps 120 and 130, engage key ways 112a of the fusing roller 112 (see Lee, at paragraph 46), thus allowing transfer of the rotation of gear 131 to the fusing roller 112 and the first end cap 120 (see Lee, at paragraph 44). Further, if the fusing roller 112 and the first and second end caps 120 and 130 were not firmly fixed together, then electric power could not be supplied from external lead 254 to lead 116 to heater 113, and thus the invention of Lee would be rendered

inoperable.

Additionally, Applicant notes that Sumino discloses that a central portion of memory alloy 7 is used to contact the interior of photosensitive drum 1 (or in FIG. 2, the middle and the end portions). In contrast, in embodiments of the present invention, e.g. FIGS. 4-8, only the distal ends of the elastic member (locking portions 75) contact the heat roller 45.

Further, regarding the combination of Lee and Sumino with Foltz, the motivation asserted by the Examiner is "to eliminate the need for gluing an end cap to the end of the heat roller." Applicant respectfully submits that neither Lee nor Sumino disclose or suggest gluing end caps to rollers, or a need to do so. Accordingly, Applicant respectfully submits that, contrary to the Examiner's assertion, one of ordinary skill in the art would not be motivated to solve such a problem by looking to Foltz.

Moreover, with respect to claims 5 and 22, the Examiner asserts that Foltz discloses a locking portion comprising material with a hardness higher than material of the inner circumferential surface of a heat roller. Applicant respectfully disagrees.

Foltz discloses nothing with respect to the hardness of various elements. Foltz does disclose, in col. 8, lines 29-34, for example, that sharp protrusions 132 may partially penetrate the inner surface 40 of cylindrical imaging member 20. But this does not necessarily mean that the sharp protrusions 132 have a hardness that is higher than the cylindrical imaging member 20. For example, if a first metal chisel is sufficiently sharpened and the sharpened end is used, with sufficient force, to strike a flat portion of a second chisel having the same hardness as the first chisel, a mark (evidencing penetration) will be left on the second chisel.

Additionally, Foltz neither discloses nor suggests that if a plurality of barbed annular rings are employed, each barbed annular ring should have a corresponding recess in the end flange. In fact, Applicant respectfully submits that col. 11, lines 20-24 teaches away from such a configuration.

Accordingly, Applicant respectfully submits that the Examiner has not provided sufficient evidence to maintain a prima facie obviousness rejection of the claims.

CONCLUSION:

In accordance with the foregoing, Applicant respectfully submits that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the cited art. Thus, there being no further

outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

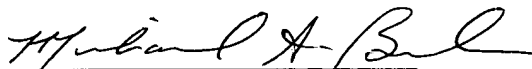
If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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